

ABSTRACT OF THE DISCLOSURE

A method for providing automatic, personalized information services to a computer user includes the following steps: transparently monitoring user interactions with data during normal use of the computer; updating user-specific data files including a set of user-related documents; estimating parameters of a learning machine that define a User Model specific to the user, using the user-specific data files; analyzing a document to identify its properties; estimating the probability that the user is interested in the document by applying the document properties to the parameters of the User Model; and providing personalized services based on the estimated probability. Personalized services include personalized searches that return only documents of interest to the user, personalized crawling for maintaining an index of documents of interest to the user; personalized navigation that recommends interesting documents that are hyperlinked to documents currently being viewed; and personalized news, in which a third party server customized its interaction with the user. The User Model includes continually-updated measures of user interest in words or phrases, web sites, topics, products, and product features. The measures are updated based on both positive examples, such as documents the user bookmarks, and negative examples, such as search results that the user does not follow. Users are clustered into groups of similar users by calculating the distance between User Models.